



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,939	09/09/2003	Omer Gila	200208926-1	3097

22879 7590 05/23/2006

HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

AKANBI, ISIAKA O

ART UNIT PAPER NUMBER

2877

DATE MAILED: 05/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/658,939

Applicant(s)

GILA ET AL.

Examiner

Isiaka O. Akanbi

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20, 22-36, 38-39 and 43-44 is/are rejected.
- 7) ☒ Claim(s) 21, 37 and 40-42 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 04 May 2006
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Amendment

The amendment file 27 January 2006 has been entered into this application. Claims 30-44 have being added.

Information Disclosure Statement

The information disclosure statement file 11 April 2005, 27 January 2006 and 04 May 2006 has been entered and reference considered by the examiner.

Drawings

The examiner approves the drawings filed 09 September 2003.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 30, 35 and 36 are rejected under 35 U.S.C. 112, second paragraph, as containing subject matter which was not described in claim 1 in such a way as to how "determining" perform/steps as to what "determining" do. There is insufficient antecedent basis for this limitation in the claim.

Claim 31 recites the limitation "image data" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claims 32, 33 and 34 rejected under 35 U.S.C. 112, second paragraph, as containing subject matter which was not described in claim 30 in such a way as to what "data" is provided. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2877

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5,9-11,13-15, 17-20, 22-29, 38, 39 and 43-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Hubble, III et al. (6,384,918 B1).

As regard to claim 1, Hubble discloses a method for measuring optical density comprising of the following:

using electrical circuitry (100), determining a color on an area (30/31)(fig. 2) (fig. 3)(col. 11, line 45-52), using electrical circuitry (100), selecting, based on the color, one of a plurality of different illumination sources appropriate to determine optical density of the color on the area (col. 12, line 12-16), illuminating the area with the selected illumination source (D1-D10)(col. 12, 56-67), receiving radiation (D12) from the area responsive to the illuminating and converting the received radiation to a signal indicative of optical density of the color on the area (col. 17, line 50-65).

As to claim 2, according to claim 1, Hubble discloses wherein the signal indicative of optical density comprising a standardized signal indicative of standardized optical density (col. 3, line 38-42)(col. 14, line 35-44).

As to claims 3 and 5, Hubble discloses wherein selecting a look-up table based on the color on the area, wherein the look-up table associates the received radiation with a standardized signal indicative of standardized optical density and generating a look-up table for converting the received radiation to the standardized signal indicative of standardized optical density (col. 6, line 64-67)(col. 7, line 41-49).

As to claim 4, Hubble discloses wherein the selected illumination source provides illumination having a 3 first spectrum and said converting comprises compensating for at least one difference between the first spectrum and a standard spectrum to generate the standardized signal indicative of standardized optical density (col. 7, line 24-50).

As regard to claim 9, Hubble discloses a method for calibrating a printing apparatus comprising of the following:

printing an area (30/31) having a color, based on the color, automatically selecting one of a plurality of different illumination sources in a densitometer without user input (col. 3, line 15-col. 4, line 1-30), illuminating the area using the selected illumination source (D1-D10 and

receiving (D12) a signal indicative of optical density in the area from the densitometer after the selecting (fig. 2) (figs. 2 and 3)(col. 17, line 50-65).

As to claims 10 and 11, Hubble discloses wherein the printing comprising printing a plurality of areas (30/31), each having a color and the receiving comprising receiving (D12) a signal indicative of optical density in each of the areas and a standardized signal indicative of standardized optical density (figs. 2 and 3)(col. 3, line 15-46)(col. 7, line 24-49)(col. 14, line 35-44).

As regard to claim 13, Hubble discloses a densitometer comprising:

at least a first illumination source (D1-D10) to illuminate an area (30/31), a sensor (D12) for converting radiation received from the area and a processor (100) coupled to the sensor for converting the received radiation to a standardized signal indicative of standardized optical density (fig. 2)(col. 4, line 14-31)(col. 12, line 24-29)(col. 10, line 46-62).

As to claims 14 and 15, Hubble discloses a plurality of illumination sources (D1-D10) and wherein the plurality of illumination sources comprising light emitting diodes (fig. 2)(col. 9, line 20-30)(col. 12, line 59)

As to claim 17, Hubble discloses wherein the processor (100) is further configured to determine a color of the area and select (an) one of a plurality of different illumination sources to determine the-standardized optical density of the color of the area, and wherein the selection is responsive to the determination of the color (col. 11, line 45-col. 12, line 1-55).

As to claim 18, Hubble discloses a memory coupled to the processor (100), wherein the memory stores a look-up table for converting the received radiation to the standardized signal indicative of standardized optical density (fig. 2)(col. 13, line 49-57)(col. 19, 1-7).

As to claim 19, Hubble discloses wherein the first illumination source is selected from a plurality of illumination sources selected from the set consisting of red, green, blue, and orange (fig. 3)(col. 6, line 55-col. 7, line 1-18).

As to claim 20, Hubble discloses wherein the first illumination source is selected from the plurality of illumination sources based on the source having [[an]] a color that is substantially a color complement to an area of a media to be measured (fig. 2)(col. 8, line 41-67)(col. 12, line 56-col. 13, line 1-6)

As to claims 22 and 23, Hubble discloses wherein the at least a first illumination source to illuminate an area is exactly a single illumination source having a spectral wavelength range

narrower than the spectrum of visible white light and a light emitting diode having one of a red, green, blue, orange color spectral output (fig. 3)(col. 2, line 4-28)(col. 6, line 55-col. 8, line 1-67).

As to claim 24, Hubble discloses an article printed using the method of measuring optical density of claim 1 (col. 7, line 48-49).

As regard to claim 25, Hubble discloses a printing apparatus (fig. 5) comprising:
means (20) for printing at least one ink on an area (col. 11, line 36-42);
a controller (100) coupled to the means for printing and a densitometer coupled to the controller, the densitometer (10) positioned to illuminate the area and generate a standardized signal indicative of standardized optical density of the area (30/31) responsive to the illumination (fig. 2)(fig. 5).

As to claim 26, Hubble discloses wherein the densitometer comprising at least one light emitting diode (D1-D10)(col. 12, line 59).

As to claim 27, Hubble discloses a sensor (12) positioned to receive radiation from the area (fig. 5).

As to claim 28, Hubble discloses wherein the densitometer is configured to determine the color of ink printed on the area (col. 12, line 33-41) and to select at least one of a plurality of different illumination sources for the illumination and corresponding to the determination of the color of ink (col. 8, line 41-67).

As to claim 29, Hubble discloses printing media printed with the printing apparatus (fig. 5) of claim 25 (col. 12, line 26).

As to claims 38, 39, 43 and 44, Hubble discloses wherein the standardized optical density provides optical density information in accordance with a standard predefined before the conversion of the received radiation to the standardized signal and wherein the processor is configured to convert the received radiation to a signal indicative of optical density and to convert the signal indicative of optical density to the standardized signal indicative of standardized optical density (col. 14, line 35-44).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2877

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-8, 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hubble, III et al. (6,384,918 B1) in view of Yamanishi et al. (4,986,665)

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over of Hubble in view of Yamanishi, as applied to claims 1 and 6. The reference of Hubble teaches of the features of claim 1, comprising illumination source and the signal indicative of optical density (LEDs D1-D10)(col. 8, line 41-67)(col. 12, 56-67), however the reference of Hubble is silent regarding compensating for the effects of heating of the selected illumination source during illumination of the area and measuring the voltage across the light emitting diode. The reference of Yamanishi teaches of compensating for the effects of heating of the selected illumination source during illumination of the area and measuring the voltage across the light emitting diode (col. 17, line 29-col. 18, line 1-50)(col. 26, line 15-60)(col. 17, line 9-28). It would have been obvious to one having ordinary skill in the art at the time of invention to provide compensation for the effects of heating of the selected illumination source during illumination of the area and measure the voltage across the light emitting diode for the purpose of measuring value with high accuracy.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over of Hubble in view of Yamanishi, as applied to claim 7 above. The reference of Hubble teaches of the features of claim 1, comprising

As to claim 8, Hubble and Yamanishi discloses everything claimed, as applied to claim 7 above, in addition Hubble discloses generating a corrected signal indicative of optical density using a non-linear relationship (col. 7, line 7-40).

Claims 12 and 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over of Hubble in view of Yamanishi, as applied to claim 9 and 13 above. The reference of Hubble teaches of the features of claim 9, comprising illumination source (fig. 2)(LEDs D1-D10), however the reference of Hubble is silent regarding compensating for the effects of heating of the selected illumination source during illumination of the area. The reference of Yamanishi teaches of compensating for the effects of heating of the selected illumination source during

Art Unit: 2877

illumination of the area (col. 17, line 29-col. 18, line 1-50) (col. 26, line 15-60). It would have been obvious to one having ordinary skill in the art at the time of invention to provide compensation for the effects of heating of the selected illumination source during illumination of the area for the purpose of measuring value with high accuracy.

Allowable Subject Matter

Claims 21,37 and 40-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claims 21, the prior art of record, taken alone or in combination, fails to disclose or render obvious a memory for receiving and storing data regarding inks used to print one or more areas to be measured, and means for accessing the stored data to determine the color printed on an area, the data being used to select a spectral wavelength of the at least a first illumination source.

As to claims 37, the prior art of record, taken alone or in combination, fails to disclose or render obvious providing data regarding a color of a marking agent used for the printing, and wherein the automatically selecting comprises selecting using the data.

As to claims 40, the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein the processor is configured to select the one illumination source using data generated during printing of a marking agent on the area.

As to claims 41, the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein the means for printing comprises means for providing data regarding the at least one ink, and one of a plurality of different illuminant sources of the densitometer is selected for the illumination using the data regarding the at least one ink.

As to claims 42, the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein the data is provided before completion of the printing of the at least one ink on the area.

Additional Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references listed in the attached form PTO-892 teach of other prior art ***** that may anticipate or obviate the claims of the applicant's invention.

Response to Arguments

Applicant's arguments/remarks, see pages 9-16, filed 27 January 2006, with respect to the rejection(s) of claim(s) 1-29 under 35 U.S.C. 102(b) and 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of claim amendment.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Official Notice

Several facts have been relied upon from the personal knowledge of the examiner about which the examiner took Official Notice. Applicant must seasonably challenge well known statements and statements based on personal knowledge. In re Selmi, 156 F.2d 96, 70 USPQ 197 (CCPA 1946); In re Fischer, 125 F.2d 725, 52 USPQ 473 (CCPA 1942). See also In re Boon, 439 F.2d 724, 169 USPQ 231

(CCPA 1971) (a challenge to the taking of judicial notice must contain adequate information or argument to create on its face a reasonable doubt regarding the circumstances justifying the judicial notice). If applicant does not seasonably traverse the well-known statement during examination, then the object of the well-known statement is taken to be admitted prior art. In re Chevenard, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). A seasonable challenge constitutes a demand for evidence made as soon as practicable during prosecution. Thus, applicant is charged with rebutting the well-known statement in the next reply after the Office action in which the well-known statement was made. See MPEP 2144.03, paragraphs 4 and 6.

Fax/Telephone Information

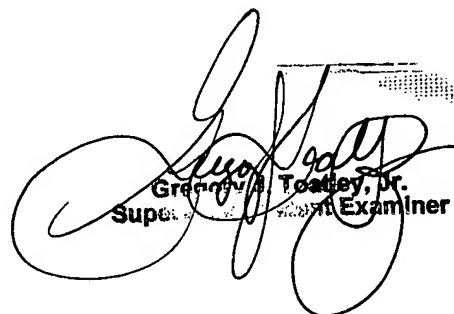
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isiaka Akanbi whose telephone number is (571) 272-8658. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley Jr. can be reached on (571) 272-2059. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Isiaka Akanbi

May 14, 2006



Gregory J. Toatley, Jr.
Supervisor